



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,469	02/23/2007	Enrico Rizzi	9526-70 (180749)	3070
30448	7590	06/19/2009	EXAMINER	
AKERMAN SENTERFITT P.O. BOX 3188 WEST PALM BEACH, FL 33402-3188			ROSATI, BRANDON MICHAEL	
			ART UNIT	PAPER NUMBER
			3744	
			MAIL DATE	DELIVERY MODE
			06/19/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/560,469

Applicant(s)

RIZZI ET AL.

Examiner

BRANDON M. ROSATI

Art Unit

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date 12/14/2005
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Invention I in the reply filed on 4/17/2009 is acknowledged. The traversal is on the ground(s) that the invention is a chemical reactor not a chemical reaction as indicated by the examiner. This is found to be persuasive and the previous Election/Restriction has been withdrawn.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "said welding points" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 4, 6, 7, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Dang Vu et al. (U.S. Patent No. 4,943,669).

Regarding claims 1 and 6, Dang Vu et al. disclose in Figures 1 and 2, a chemical reactor comprising a plurality of boxed plate heat exchangers (see four rectangular boxes within (1)), the heat exchangers being formed of plates, having an inner chamber with a spacer element (7b) placed inside the chamber (Column 6, lines 38-57).

Regarding claims 2 and 7, Dang Vu et al. disclose in Figures 1 and 2, the space element having a concertina profile with parallel folds (see Figure 2b).

Regarding claims 4 and 9, Dang Vu et al. disclose in Figures 1 and 2, the space elements (7b) being welded to the plates (i.e. duct) (see Column 6, lines 52-55).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 3, 4, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dang Vu et al. (U.S. Patent No. 4,943,669) in view of Hesselgreaves (U.S. Patent No. 5,193,611).

Regarding claims 3 and 8, Dang Vu et al. disclose all the claimed limitations except the reference is silent as to the space elements being structurally independent from the heat exchanger. However, Hesselgreaves discloses in Figure 1, a heat exchanger with primary plates forming an inner chamber with a spacer element (i.e. secondary plate (12)) being structurally independent from the heat exchanger (Column 3, lines 51-68). Hence, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to modify the teachings of Dang Vu et al. with the independent spacer element of Hesselgreaves because this would allow for the space element to be easily replaced or serviced if failure occurred within the inner chamber.

Regarding claims 4 and 9, Hesselgreaves discloses welding (i.e. diffusion bonding) the spacer elements (Column 3, lines 65-68).

8. Claims 5 and 10 as best understood are rejected under 35 U.S.C. 103(a) as being unpatentable over Dang Vu et al. (U.S. Patent No. 4,943,669) in view of Filippi et al. (U.S. Pub. No. 2002/0088613 A1).

Regarding claims 5 and 10, Dang Vu et al. disclose all the claimed limitations including utilizing welding, but not welding points arranged in a quincunx pattern. However, Filippi et al. discloses the general teaching of utilizing welding with the weld spots having a quincunx pattern (Paragraph [0036]). Hence, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to modify the teachings of Dang Vu et al. with the quincunx welding of Filippi et al. because this type of welding is well known in the art and would allow for the welding spots to be regularly distributed over the two objects being welded.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Urch (U.S. Patent No. 6,098,706) discusses a heat exchanger with a metal strip having a concertina pattern.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRANDON M. ROSATI whose telephone number is (571)270-3536. The examiner can normally be reached on Monday-Friday 8:00am- 4:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler or Frantz Jules can be reached on (571) 272-4834 or (571) 272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BMR 6/18/2009	/Leonard R Leo/ Primary Examiner, Art Unit 3744
------------------	--